IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT EXAMINING OPERATION

Applicants: Leonard R. Bayer, Andrew P. Jeavons, and David G. Bakken

Serial No.: 09/882,203 Confirmation No. 8016

Filed: June 15, 2001

For: SYSTEM AND METHOD FOR CONDUCTING PRODUCT CONFIGURATION RESEARCH OVER A COMPUTER-BASED NETWORK

Examiner: McAllister, Steven B. Art Unit: 3627

Atty Docket: HAR-003

DECLARATION UNDER 37 C.F.R. 1.131

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Leonard R. Bayer, Andrew P. Jeavons, and David G. Bakken declare that we are co-inventors of the above-identified application, and that the claimed subject matter of the invention of the application was conceived in the U.S. before the May 10, 2001 effective date of U.S. Patent Application No. 09/874,853 as set by such Application's claim to benefit of U.S. Provisional Application No. 60/290,131, filed May 10, 2001.

Leonard R. Bayer, with the assistance of David G. Bakken, sometime between April 27, 2001 and May 9, 2001 prepared a set of ten (10) Drawing Sheets on Leonard R. Bayer's computer, such Drawing Sheets being stored electronically in a file on Leonard R. Bayer's computer. These Drawing Sheets were finalized by Leonard R. Bayer on May 9, 2006, and reviewed by David G. Bakken on May 9, 2006. On the morning of May 10, 2001, Leonard R. Bayer's electronically faxed these Drawing Sheets from his computer to the office of Kenneth J. LuKacher, the patent attorney who utilized these Drawing Sheets in drafting the above-identified application. These Drawing Sheets are enclosed and referred to hereinafter as Draft Drawing Sheets numbered 1-10. The electronic file storing the Draft Drawing Sheets on Leonard R. Bayer's computer was revised after May 10, 2001 in the normal course of business.

A comparison of the enclosed drawing sheets with the drawing sheets filed in the Patent Application shows that FIGS. 2, 3, 4, 5A, 5B, 6, 7, and 8 are substantially identical to Draft Drawing Sheets Nos. 1-8, respectively, except for changes in terminology from "level" to "subfeature", added text clarifying respondent action previously shown by difference in dotted

and undotted blocks in Draft Drawing Sheet No. 2, removal of explanatory tagged boxes from Draft Drawing Sheet No. 3-6, and reference numerals. Draft Drawing Sheet No. 9 is an example of data returned to the survey engine server from the respondent's computer, and Draft Drawing Sheet No. 10 describes the usage of the claimed invention in market research that was rewritten by Kenneth J. LuKacher into the filed Patent Application on page 14, first paragraph, thereof.

In Draft Drawing Sheet No. 1 the term "configurator" represents the software program sent from a block "Issue Configurator" from the right "Survey Engine" side over the "computer network" to left "survey respondent" side to the block "Download Configurator, Make Choices, Return Data". The left and right sides of the central heavy black line illustrates the processes at the survey respondent computer and survey engine computer, respectively, as denoted by labeling at the top of Draft Drawing Sheet No. 1. Arrows crossing the central black line representing the network illustrate interactions between the survey respondent and survey engine computers. Drawing Sheet No. 2 shows the program flow of the configurator software program in which respondent's action are shown as undotted blocks and respondent's computer actions by dotted blocks, and such program enables a respondent to select features and subfeatures, referred to as levels in the draft drawings, for the product being configured. Draft Drawing Sheet Nos. 2-8 illustrate the user interface of the configurator software program for enabling respondent to select features and subfeatures or levels, for the example of a Burger King meal. The fact that configurator software program is market research software is evident in the text of Draft Drawing Sheet No. 10 describing the usage of the "configurator" software program in market research.

The displaying and updating of a total price value of the product in accordance with changes in the product being configured is described on Draft Drawing Sheet No. 2 in which after blocks "Select a Feature", "Present Levels of Chosen Feature" and "Select a Level" the respondent's computer updates the total price, see subsequent block with text "Recompute total price". Such total price is displayed in the configurator user interface as evident in Draft Drawing Sheet Nos. 3, 4 and 5, see Total Cost output field with tagged box text "Total price of configuration" on Draft Drawing Sheet No. 3. Such displayed total price value is updated in accordance with changes in selected features and levels separate from the operation of the survey engine computer, see The Total Cost output field of Drawing Sheet Nos. 3, 4 and 5 is updated by respondent selections in Draft Drawing Sheet Nos. 4 and 5, and especially Total Cost output field with tagged box text "Price changes as level selected". The Configuration, displayed

totaled price and update of the displayed total price of the product is separate from the operation of "survey engine" computer as evident in Draft Drawing Sheet No. 1 on the survey respondent left side block "Download Configurator, Make Choices, Return Data", in which interaction with the survey does not recommence over the network with the survey computer until returned data is sent to the survey engine computer. Further, the configurator program flow of Draft Drawing Sheet No. 2 does not end until data is returned to the server, i.e., the survey engine computer of Drawing Sheet No. 1.

Information of the complete configuration is returned by use of the "Finished" button on the configurator user interface Draft Drawing Sheet Nos. 3 and 4, see tagged box text "press when complete" and "press to return data to server", respectively, and data so returned in this example is described in the text on Draft Drawing Sheet No. 9 of the final state of the levels of each feature chosen, as well as the total price, time elapsed, each of the (feature level) pairs taken for each step taken by respondent in arriving at the final state of the product configuration. The data returned is used for new product, product configuration, pricing, or segmentation as described by text adjacent to the four bullet points at the top of Draft Drawing Sheet No. 10.

Measuring of elapsed time for the configuration is described in the program flow of Draft Drawing Sheet No. 2 as "Start Timer" and "End Timer"; the elapse time is part of the returned data of Draft Drawing Sheet No. 1 as set forth in Draft Drawing Sheet No. 9.

The operation of subject invention is part of a survey as evident by the blocks "issue survey questions" and "provide survey answers" on Draft Drawing Sheet No. 1, and the text "Usage of the Configurator within a survey..." of Draft Drawing Sheet No. 10. Such survey may be before issuance of the configurator software program to the respondent's computer or after data is returned from the respondent's computer to the survey engine computer, as evident from the two blocks "issue survey questions" at the start and end, respectively of the diagram on Draft Drawing Sheet No. 1.

Further, enclosed is a copy of a summary document entitled "Increasing the Value of Choice-based Conjoint with "Build your own" Configuration Questions" that David G. Bakken prepared in February 2001 for a conference to be held during the fall of 2001. This document was based on work of David G. Bakken and Leonard R. Bayer. Leonard R. Bayer reviewed the document soon after it was prepared. The document sets forth our invention in collecting individual-level product configuration data for analysis utilizing a follow-up question in a fashion following the "build your own" product section features used by web marketers. As set

forth under the document's section "How it Works", a respondent configures the features and levels back and forth until he or she arrives at an acceptable configuration and total price. The invention is described as a "market simulator" and thus configured products are not actually available for purchase. The invention resulted in the configurator program of the present Application No. 09/882,203.

Attached is a chart showing correspondence of the pending claims to the Draft Drawing Sheets, and to the document entitled "Increasing the Value of Choice-based Conjoint with "Build your own" Configuration Questions.

Therefore, the enclosed documents shows conception of the invention of the pending claims of the present Application No. 09/882,203 prior to the effective date of U.S. Patent Application No. 09/874,853, which was filed with due diligence to the June 15, 2001 filing date of the present Application No. 09/882,203.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and, further, that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

Date: 11 MAY 2006

Leonard R. Bayer

Date: 12 May 2006

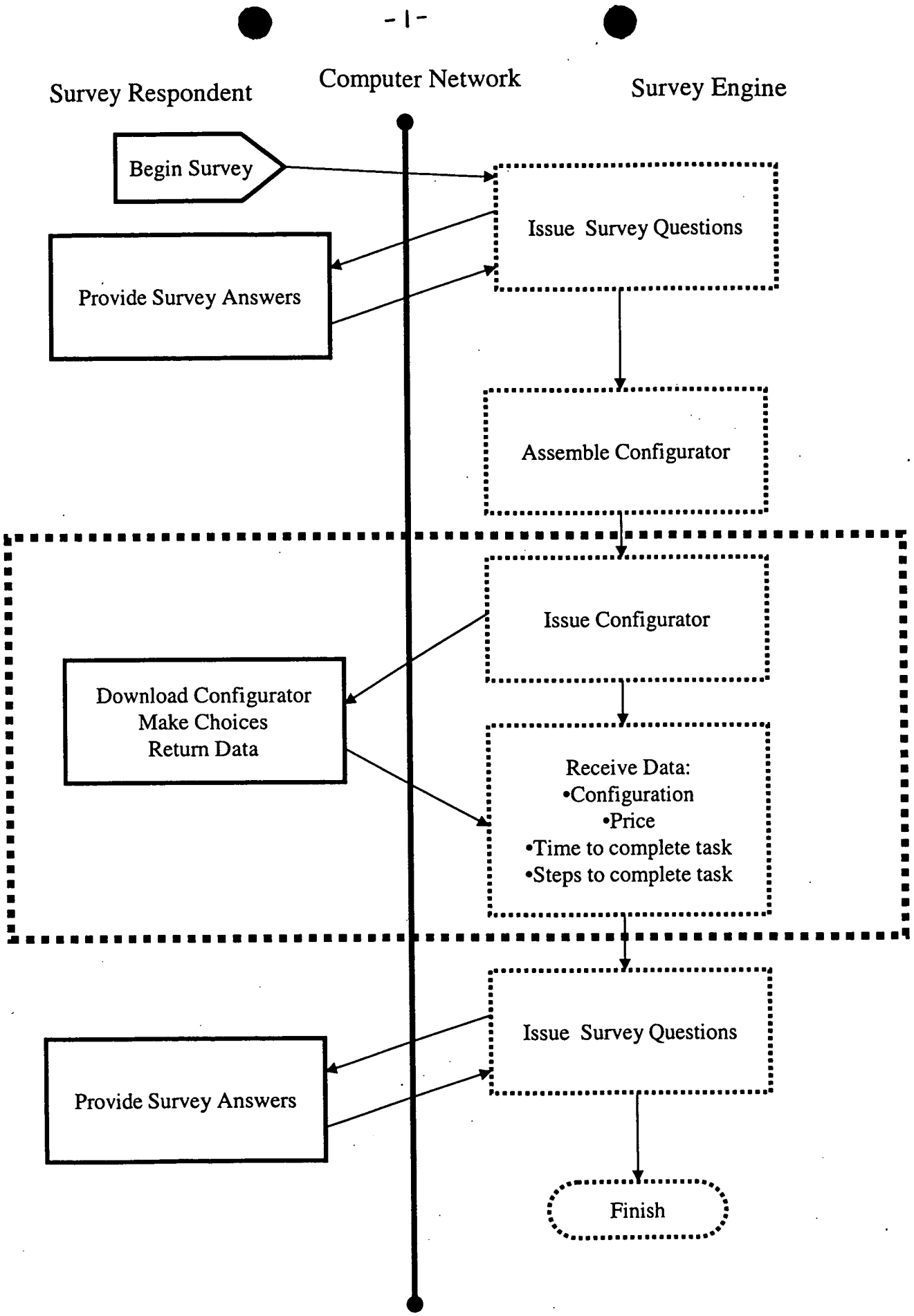
Andrew P. Jeavons

Date: 11 May 2006

David G. Bakken

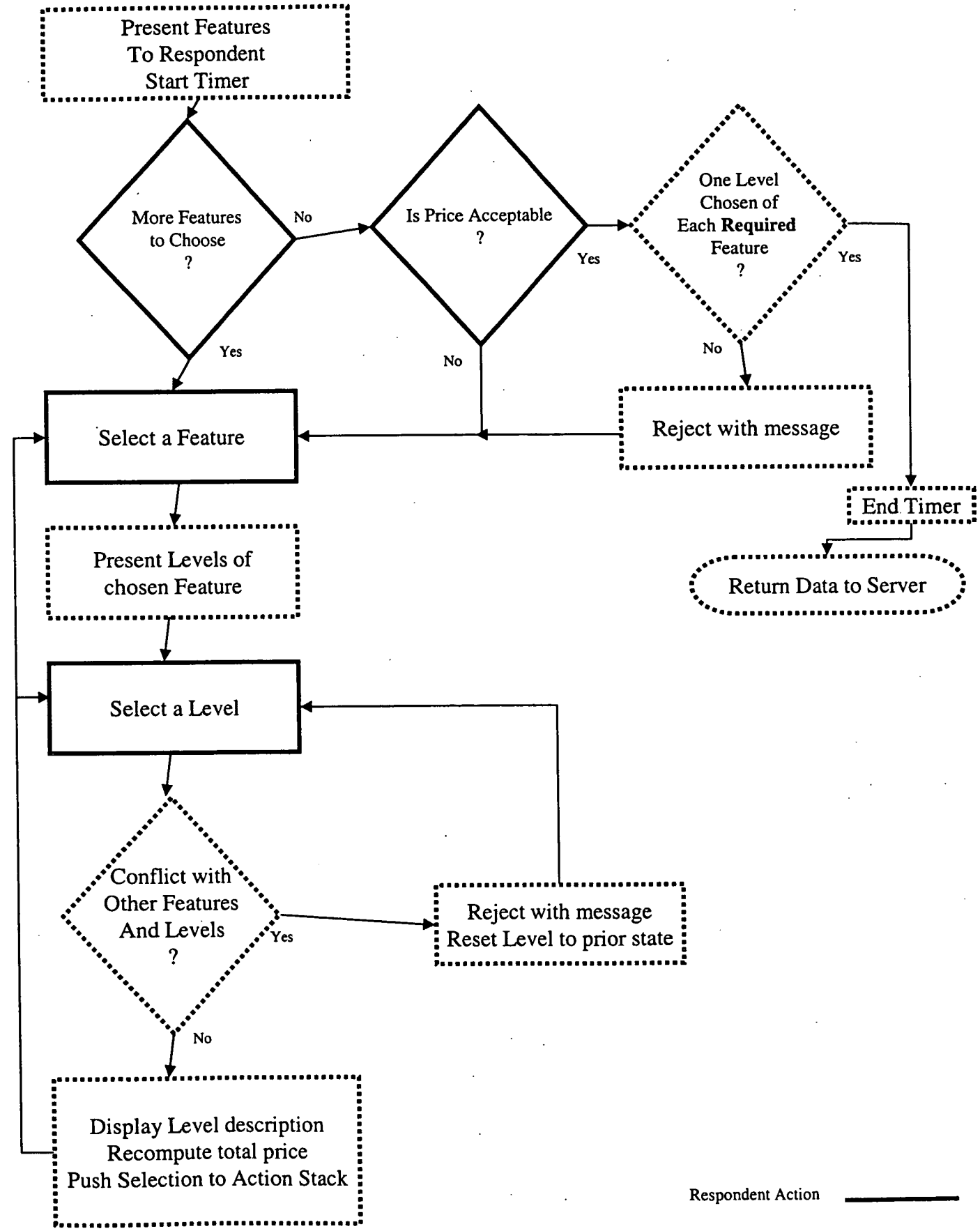
PENDING CLAIMS 09/882,203	DOCUMENT
25. (currently amended) A method for enabling product configuration market research comprising the steps of:	
sending market research software from a network addressable site, via a network, to one or more computer systems which when executed by said computer systems enables each user of said computer systems to select the features of a ~~hypothetical~~ product configuration not available via the software for purchase;	SHEET NO. 1 Document entitled "Increasing the Value of Choice-based Conjoint with "Build your own" Configuration Questions
displaying via said market research software a total price value of the product at each of said computer systems in accordance with price values of said selected features separate from the operation of said network addressable site;	SHEET NO. 1 SHEET NOS. 2, 4, 9
updating said displayed total price value in accordance with changes in said selected features separate from the operation of said network addressable site;	SHEET NOS. 2, 4, 5
returning information via said network to said network addressable site having data representing at least said features selected when the user of each of said computer systems has completed the configuration of the product; and	SHEET NOS. 1, 2 SHEET NO. 9
determining at least one of new product, product configuration, pricing, or segmentation in accordance with said information.	SHEET NO. 10
26. (previously presented) The method according to Claim 25 wherein one or more of said features has a plurality of subfeatures for selection by each user of said computer systems, said total price value of the product is further in accordance with the price values of said selected subfeatures, and said data further represents said selected subfeatures for said selected features.	SHEET NO. 8
27. (previously presented) The method according to Claim 25 further comprising the step of measuring elapse time for each user of the computer systems to configure the product, and said information further comprises data representing said elapse time.	SHEET NOS. 2, 9
28. (previously presented) The method according to Claim 25 wherein said information further comprises data representing said selected features and any changes in the selection of said features by the user of each of said computer systems until said product configuration is completed.	SHEET NO. 9
29. (previously presented) The method according to Claim 25 wherein said information is unassociated with any real purchase of the product.	Document entitled "Increasing the Value of Choice-based Conjoint with "Build your own" Configuration Questions
40. (previously presented) The method according to Claim 25 further comprising the step of sending a survey having questions to each of said computer systems from the network addressable site one of before, after, or before and after said step of sending market research software, which enables the user of each of said computer systems to answer said questions and to send answers to said questions to the network addressable site.	SHEET NO. 1

42. (currently amended) A method for enabling product configuration market research comprising the steps of:	
sending market research software from a network addressable site, via a network, to one or more computer systems which when executed by said computer systems enables each user of said computer systems to select the features of a ~~hypothetical~~ product configuration not available via the software for purchase;	SHEET NO. 1 Document entitled "Increasing the Value of Choice-based Conjoint with "Build your own" Configuration Questions
displaying via said market research software a total price value of the product at each of said computer systems in accordance with price values of said selected features separate from the operation of said network addressable site;	SHEET NO. 1 SHEET NOS. 2, 4, 9
updating said displayed total price value in accordance with changes in said selected features separate from the operation of said network addressable site; and	SHEET NO. 2
returning information via said network to said network addressable site having data representing at least said features selected when the user of each of said computer systems has completed the configuration of the product,	SHEET NOS. 1, 2 SHEET NO. 9
wherein said information represents market research information relating at least to the total price for a ~~hypothetical~~ configured product the user of each of said computer systems is willing to pay in accordance with said features selected by the user.	SHEET NO. 10
43. (previously presented) The method according to Claim 42 wherein one or more of said features has a plurality of subfeatures for selection by each user of said computer systems, said total price value of the product is further in accordance with the price values of said selected subfeatures, and said data further represents said selected subfeatures for said selected features.	SHEET 8
44. (previously presented) The method according to Claim 42 further comprising the step of measuring elapse time for each user of the computer systems to configure the product, and said information further comprises data representing said elapse time.	SHEET NOS. 2, 9
45. (previously presented) The method according to Claim 42 wherein said information further comprises data representing said selected features and any changes in the selection of said features by the user of each of said computer systems until said product configuration is completed.	SHEET NO. 9
46. (previously presented) The method according to Claim 42 further comprising the step of sending a survey having questions to each of said computer systems from the network addressable site one of before, after, or before and after said step of sending market research software, which enables the user of each of said computer systems to answer said questions and to send answers to said questions to the network addressable site.	SHEET NO. 1

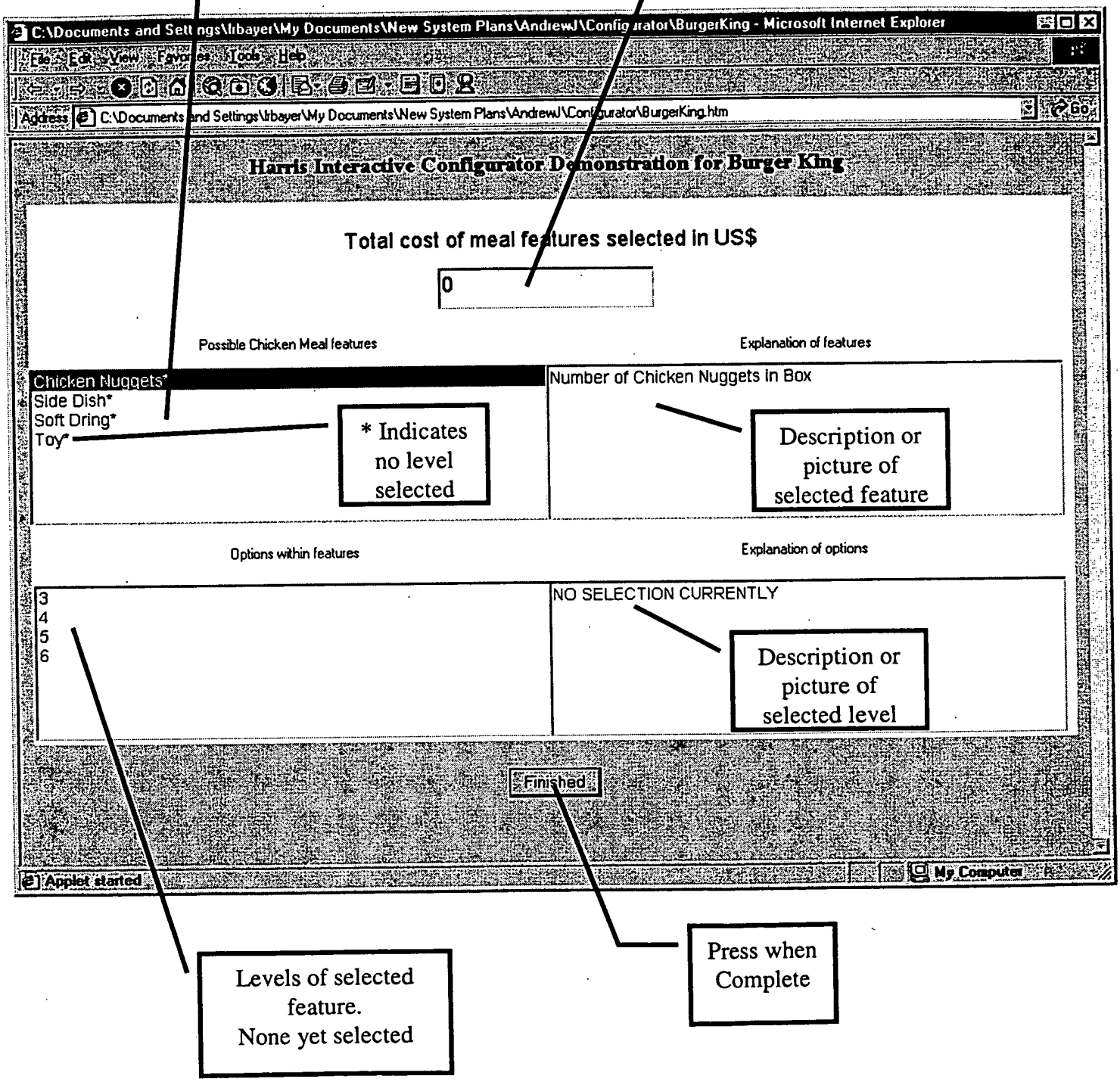


Network Diagram

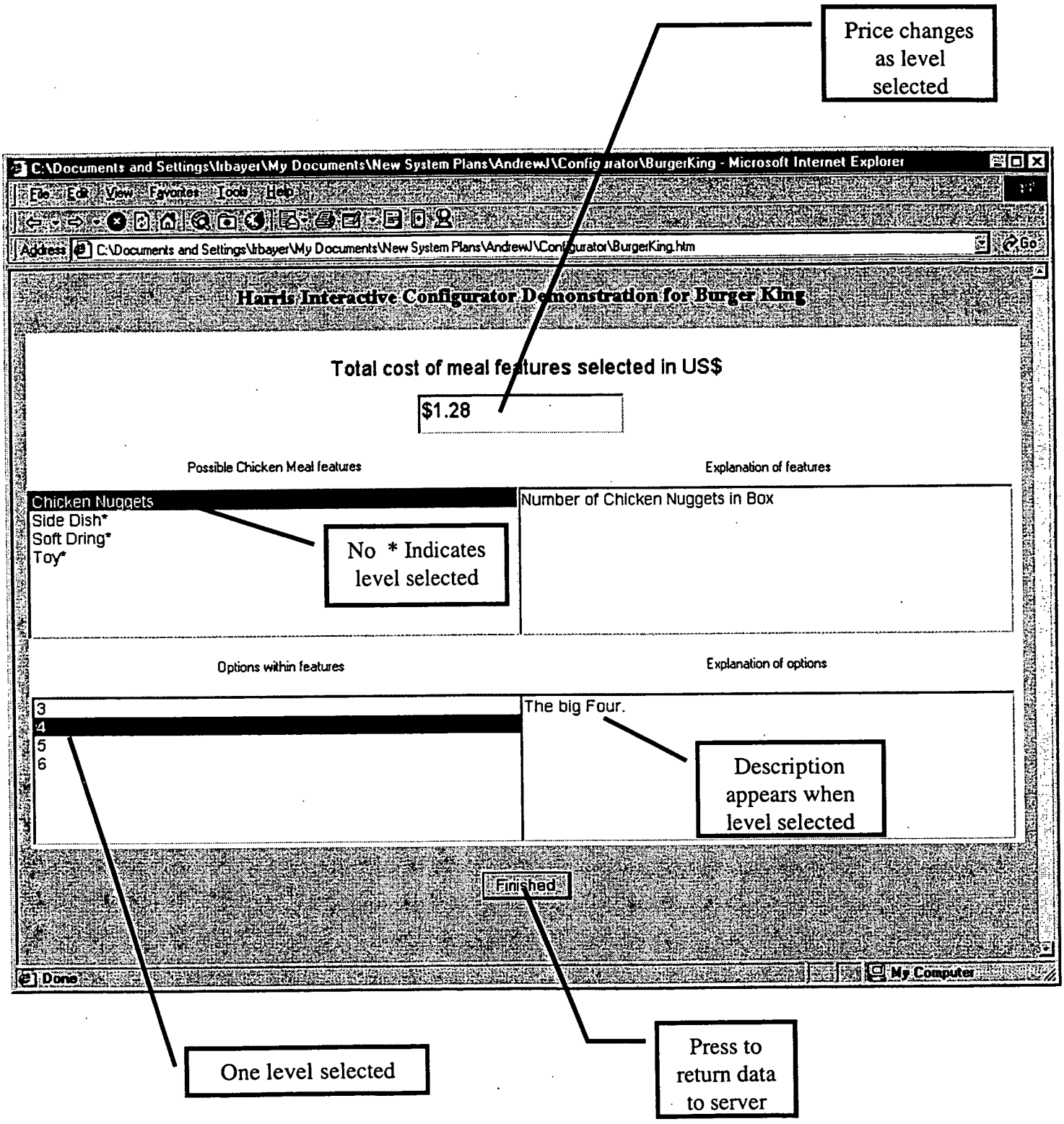
..... Section is the new part



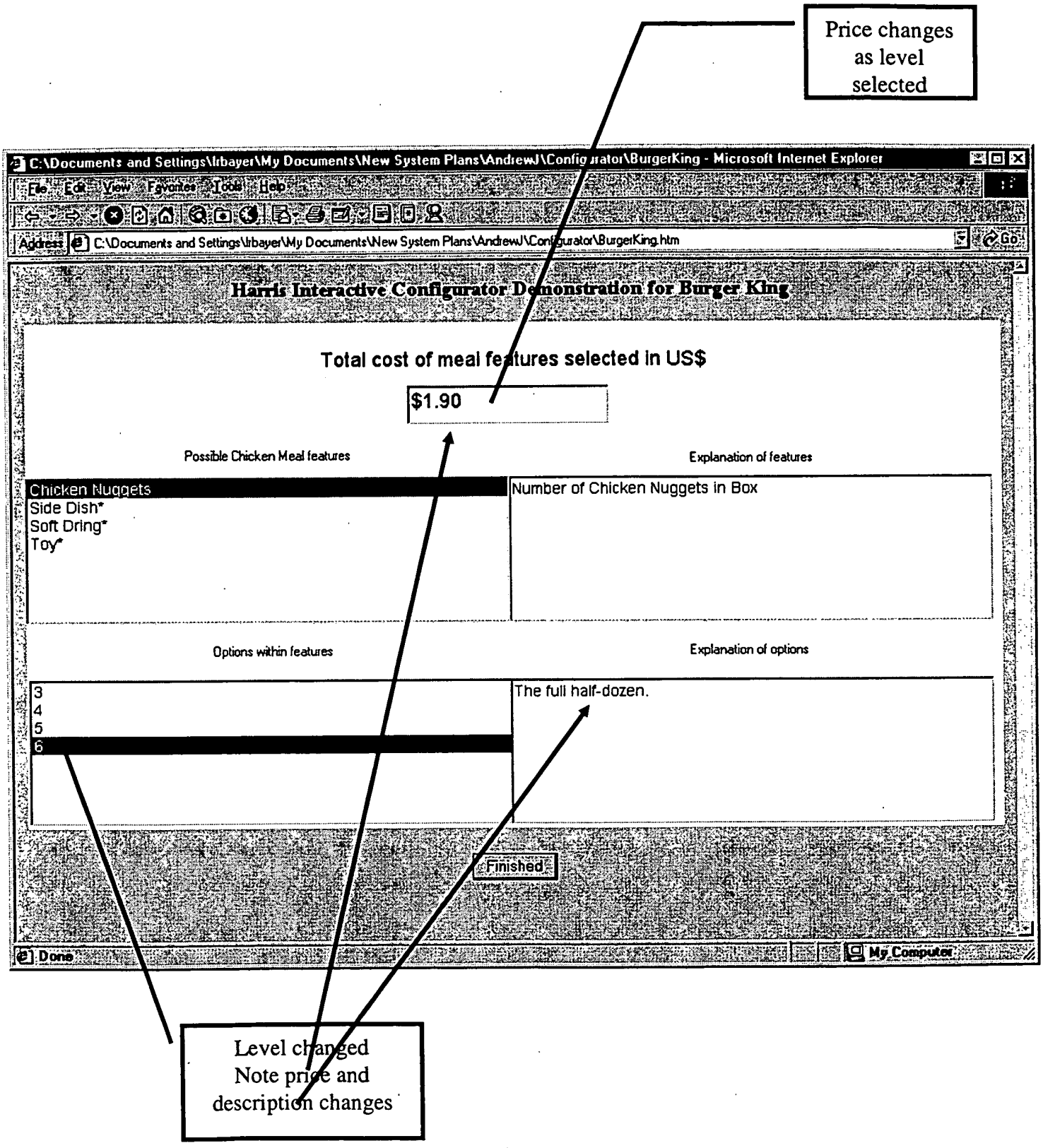
Program Flow



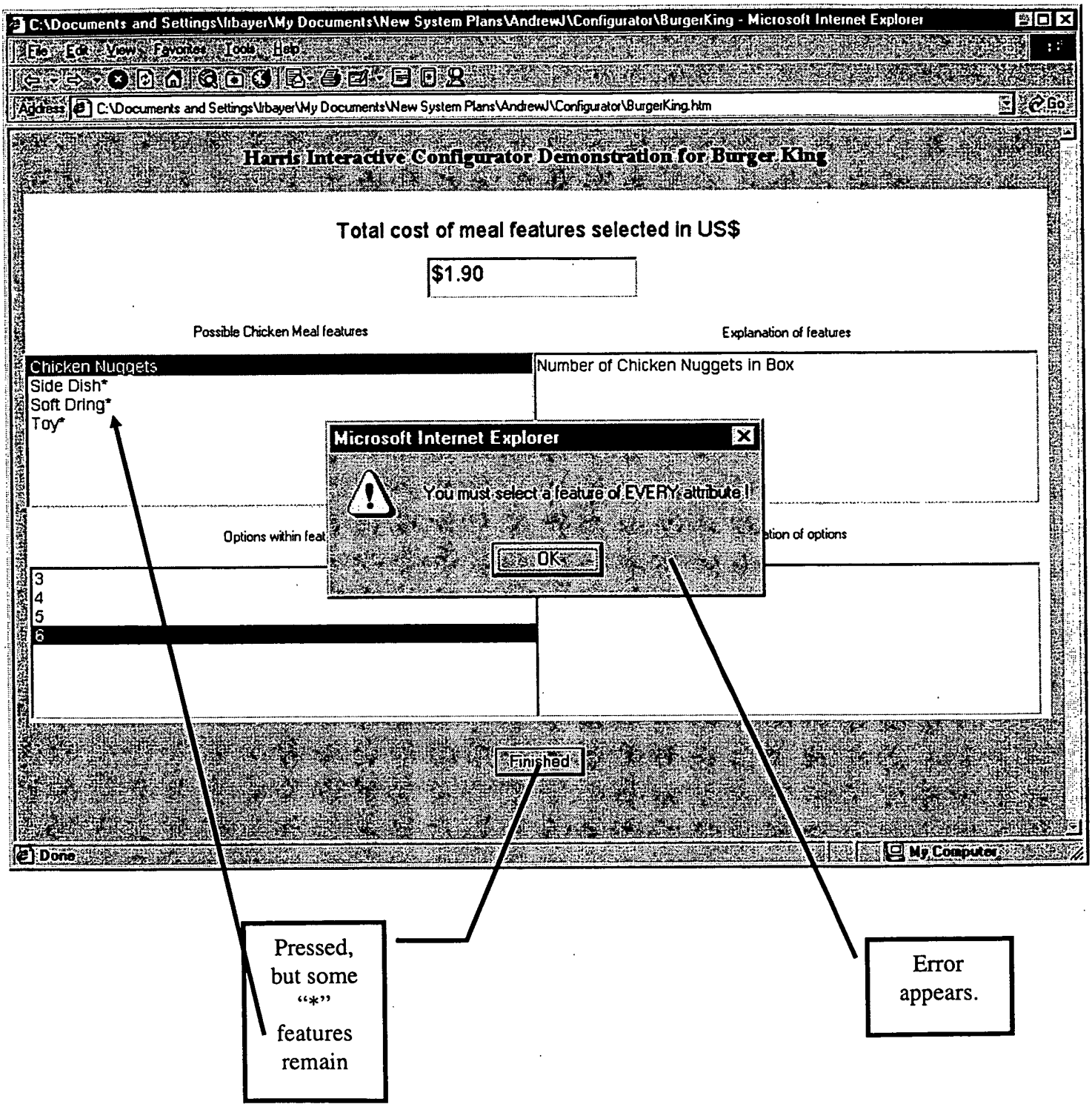
User Interface Components



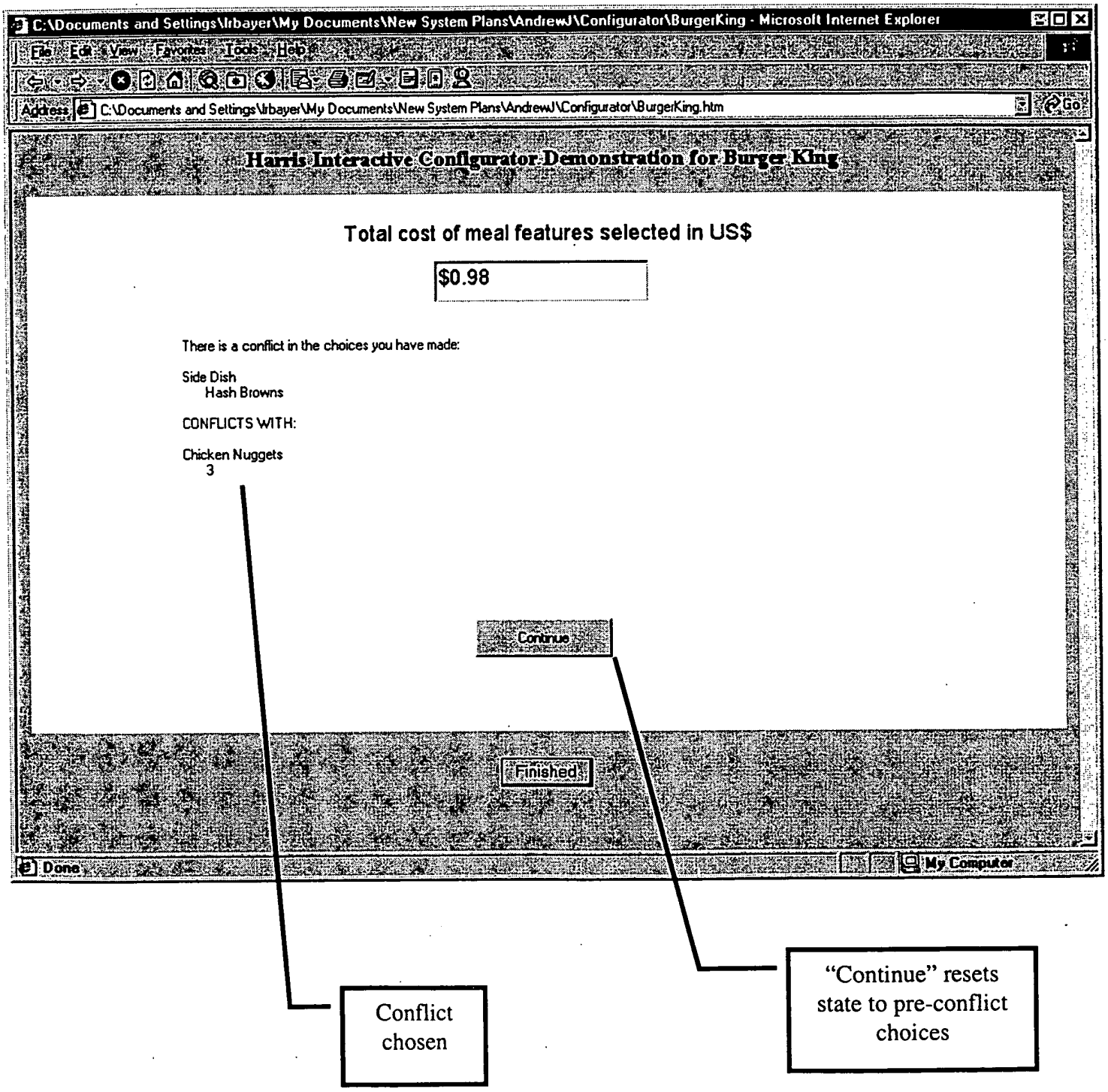
State after one Feature/level chosen



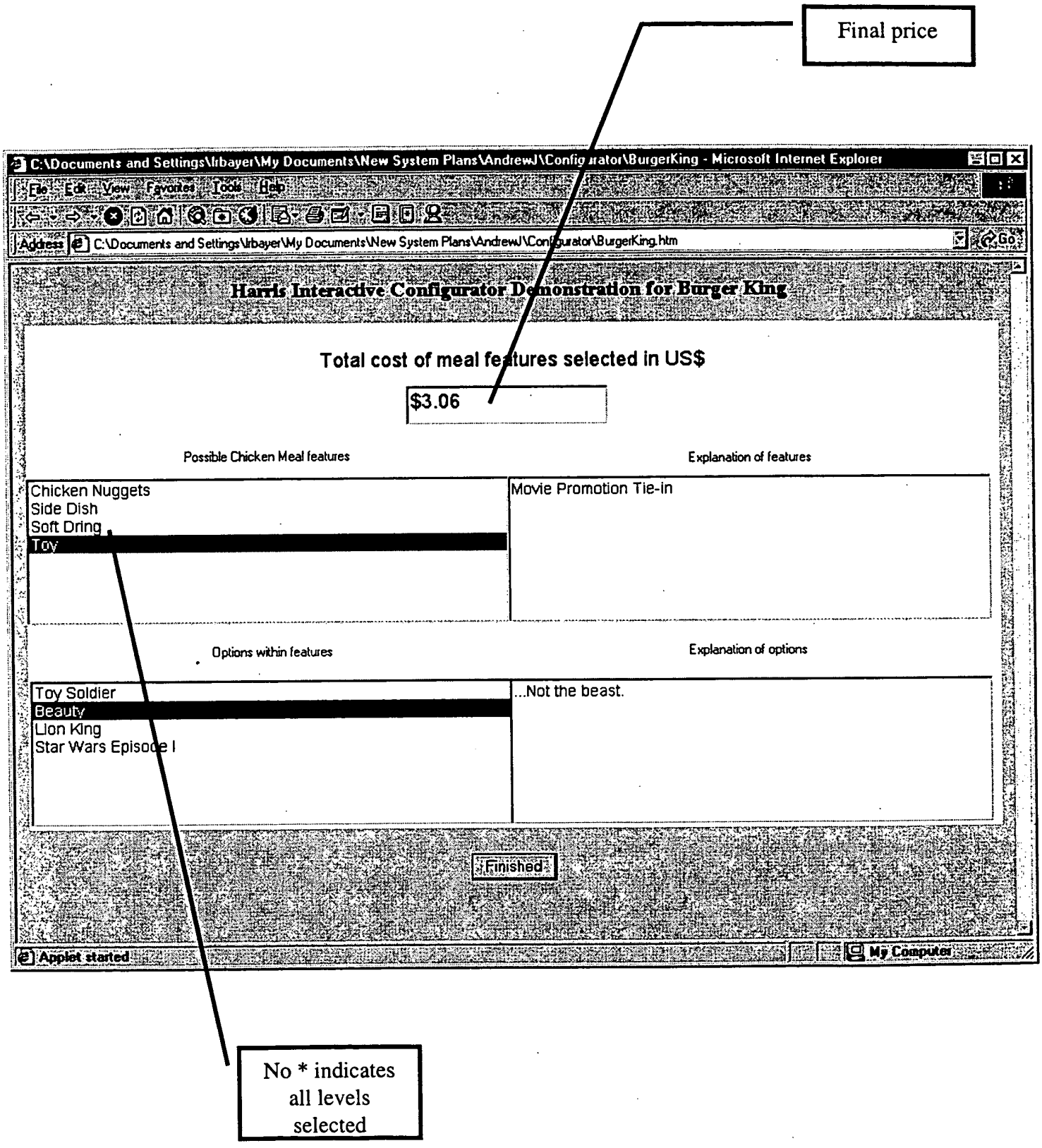
State when level of first feature changed



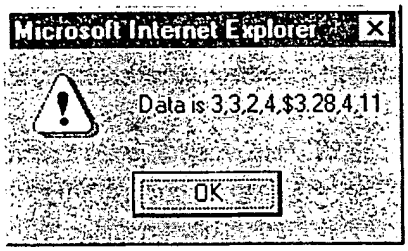
Attempt to exit before a level of each feature is chosen



Attempt to choose features/levels that conflict



Final state: one level of each feature chosen



Data returned to server:

- Level of each feature chosen.
- Total Price
- Minutes.seconds of elapsed time
- (Feature,level) pairs for each step taken.

Screen showing final state data (invisible to respondent)

Usage in Market Research

- New product development
- Configuration building
- Optimal pricing
- Needs-based segmentation

The final output provides the researcher with information about the price the respondent is willing to pay for his preferred configuration of the product under investigation.

The timing information provides the researcher with information about the amount of attention paid to the exercise by the respondent.

Usage of the Configurator within a survey, where the output is returned to the survey at the point of invocation, allows the researcher to control the remainder of the survey based on input to the Configurator about optimal choices.

The Configurator adds information to trade off research techniques (such as Conjoint and Discrete Choice Analysis) by letting the respondent direct his preferences.

Increasing the Value of Choice-based Conjoint with "Build your own" Configuration Questions

David G. Bakken, Ph.D.
Senior Vice President

Len Bayer
Executive Vice President and Chief Scientist
Harris Interactive

Overview

Utility estimates from choice-based conjoint analysis are derived from customer response to predefined product or service configurations. Using these utility estimates or part-worths, we can predict, with a market simulator, the share of preference that any combination of the possible feature levels will attain. While this has proven extremely valuable to marketers, CBC does not directly answer the question, "What features would customers pick if they could configure their own product?"

TURF analysis and BUNDOPT are two approaches for answering this question. One limitation of these approaches is the lack of information about price sensitivity for the different features or attributes. In this paper, we demonstrate a third approach that capitalizes on web-based (or CAPI) survey administration. Taking as our model the "build your own" product selection features of web marketers such as Dell Computer, we describe a technique for collecting individual-level product configuration data in conjunction with a choice experiment.

Advantages of the Build Your Own Question

In many cases, marketers would like to have volume information for specific attribute levels for production planning purposes, especially if they plan to offer more than one configuration. We describe a few such applications of the build your own question. In one instance, a manufacturer needed more precise information about demand for certain components, for production planning purposes.

The build your own question can also serve as an individual-level holdout task, for purposes of validating the model. This question might also be used to break "ties" between features or levels with very similar part worths.

The build your own question may prove especially valuable with partial profile designs, because it offers the respondent one opportunity to make a choice based on the entire set of attributes. We expect to have completed at least one study combining a partial profile design with this type of question before the conference.

How It Works

After a respondent completes the choice experiment, a follow-up question presents the same attributes, one at a time, and asks for the most preferred level. Each level has a

price attached (which may or may not be revealed), and the screen displays a "total price" based on the specific features selected so far. The respondent can move back and forth between the attributes until he or she arrives at a configuration and price that is acceptable. We will demonstrate our user-interface and describe other ways of implementing this type of question.

Case Studies

We describe two studies using the build your own question and demonstrate different ways of analyzing the data, including simple counting and hierarchical "contingency" analysis (for example, taking the most preferred level of the most important attribute and displaying the frequencies with which it is combined with specific levels of other attributes. One study is a full profile CBC design; the other study will be a partial profile design.

We conclude the paper by summarizing the benefits of including a build your own question. These include the technical benefits (e.g., individual level holdouts) as well as managerial benefits.